

WHAT IS CLAIMED IS:

1. A microcomputer comprising:

an oscillation circuit which oscillates and outputs  
an oscillation signal;

5 a wakeup terminal that always receives from outside  
a wakeup signal of a predetermined cycle; and

a clock control circuit which controls said  
oscillation circuit so as to stop the oscillation, and based  
on the wakeup signal received through said wakeup terminal  
10 controls said oscillation circuit so as to restart the  
oscillation.

2. The microcomputer according to claim 1, wherein said  
clock control circuit nullifies the wakeup signal received  
15 when the oscillation signal is output from said oscillation  
circuit.

3. A microcomputer comprising:

an oscillation circuit which oscillates and outputs  
20 an oscillation signal and stops the oscillation during a  
period in which it receives an oscillation stop signal;

a wakeup terminal that receives from outside a wakeup  
signal of a predetermined cycle; and

a clock control circuit which receives the wakeup  
25 signal, outputs the oscillation stop signal, and stops output

of the oscillation stop signal based on the wakeup signal.

4. The microcomputer according to claim 3, wherein said  
clock control circuit receives the oscillation signal from  
5 said oscillation circuit and generates a main clock based  
on the oscillation signal.

5. The microcomputer according to claim 3, wherein said  
clock control circuit nullifies the wakeup signal received  
10 when the oscillation signal is output from said oscillation  
circuit.

6. The microcomputer according to claim 3, further  
comprising a register which stores history information  
15 related to the executed commands as register value,

wherein when said clock control circuit stops output  
of the oscillation stop signal, processing is executed from  
an instruction immediately following the instruction that  
was executed just before stopping the oscillation of said  
20 oscillation circuit based on a value stored in said register  
just before stopping the oscillation of said oscillation  
circuit.

7. The microcomputer according to claim 3, further  
25 comprising an interrupt control circuit to which the wakeup

signal is input as an interrupt requesting signal for executing an interrupt processing,

wherein when the oscillation of said oscillation circuit is stopped when a permission for a request for an external interrupt has been given, and further if said clock control circuit stops output of the oscillation stop signal, said interrupt control circuit executes the signal representing the permission for the request for the interrupt is input into said interrupt control circuit.

8. The microcomputer according to claim 7, wherein the microcomputer is a one-chip microcomputer equipped with said oscillation circuit, clock control circuit, and said interrupt control circuit on the same LSI chip.

9. The microcomputer according to claim 3, further comprising an address generating circuit which receives the wakeup signal and outputs, based on the wakeup signal, a specific address corresponding to which a specific processing is to be performed,

wherein said address generating circuit outputs the specific address when said clock control circuit stops output of the oscillation stop signal.

10. The microcomputer according to claim 9, wherein the

microcomputer is a one-chip microcomputer equipped with said oscillation circuit, clock control circuit, and said interrupt control circuit on the same LSI chip.

- 5 11. The microcomputer according to claim 3, wherein said clock control circuit receives the oscillation signal and outputs the oscillation stop signal based on a condition of the oscillation signal.

- 10 12. A microcomputer comprising:

an oscillation circuit which oscillates and outputs an oscillation signal and stops the oscillation during a period in which it receives an oscillation stop signal;

- 15 a wakeup terminal that receives from outside a wakeup signal of a predetermined cycle; and

a clock control circuit which receives the wakeup signal, outputs the oscillation stop signal to said oscillation circuit only for a specific time interval based on the wakeup signal.

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13. The microcomputer according to claim 12, wherein said clock control circuit receives the oscillation signal and outputs the oscillation stop signal based on a condition of the oscillation signal.

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14. A microcomputer comprising:

an oscillation circuit which oscillates and outputs an oscillation signal and stops the oscillation during a period in which it receives an oscillation stop signal;

5 a wakeup terminal that receives from outside a wakeup signal of a predetermined cycle; and

a clock control circuit which receives the wakeup signal and the oscillation signal, outputs the oscillation stop signal to said oscillation circuit only for a specific time interval based on the wakeup signal and the oscillation signal.

15. The microcomputer according to claim 14, wherein said clock control circuit outputs the oscillation stop signal based on a condition of the oscillation signal.

16. A microcomputer comprising:

an oscillation circuit which oscillates and outputs an oscillation signal;

20 a wakeup terminal that receives from outside a wakeup signal of a predetermined cycle; and

a clock control circuit which receives the wakeup signal and the oscillation signal,

wherein said clock control circuit monitors a condition of the oscillation signal and outputs the

oscillation stop signal to said oscillation circuit based on the condition of the oscillation signal thereby stopping the oscillations of said oscillation circuit,

when said oscillation circuit is not oscillating and  
5 when specific time has lapsed, said clock control circuit stops output of the oscillation stop signal to said oscillation circuit based on the wakeup signal.

17. The microcomputer according to claim 16, wherein said  
10 clock control circuit outputs the oscillation stop signal when it does not receive the oscillation signal.

18. A microcomputer system comprising:

a wakeup signal supplying unit that generates a wakeup  
15 signal of a predetermined cycle; and

a microcomputer, said microcomputer including,  
an oscillation circuit which oscillates and  
outputs an oscillation signal;

a wakeup terminal that always receives the wakeup  
20 signal of a predetermined cycle from said wakeup signal supplying unit; and

a clock control circuit which controls said  
oscillation circuit so as to stop the oscillation, and based  
on the wakeup signal received through said wakeup terminal  
25 controls said oscillation circuit so as to restart the

oscillation.

19. A microcomputer system comprising:

a wakeup signal supplying unit that generates a wakeup  
5 signal of a predetermined cycle; and

a microcomputer, said microcomputer including,  
an oscillation circuit which oscillates and outputs  
an oscillation signal and stops the oscillation during a  
period in which it receives an oscillation stop signal;

10 a wakeup terminal that always receives the wakeup  
signal of a predetermined cycle from said wakeup signal  
supplying unit; and

a clock control circuit which receives the wakeup  
signal, outputs the oscillation stop signal, and stops output  
15 of the oscillation stop signal based on the wakeup signal.

20. The microcomputer according to claim 21, wherein said  
clock control circuit receives the oscillation signal and  
outputs the oscillation stop signal based on a condition  
20 of the oscillation signal.

21. A microcomputer system comprising:

a wakeup signal supplying unit that generates a wakeup  
signal of a predetermined cycle; and

25 a microcomputer, said microcomputer including,

an oscillation circuit which oscillates and outputs an oscillation signal;

a wakeup terminal that receives from outside a wakeup signal of a predetermined cycle; and

5 a clock control circuit which receives the wakeup signal and the oscillation signal,

wherein said clock control circuit monitors a condition of the oscillation signal and outputs the oscillation stop signal to said oscillation circuit based  
10 on the condition of the oscillation signal thereby stopping the oscillations of said oscillation circuit,

when said oscillation circuit is not oscillating and when specific time has lapsed, said clock control circuit stops output of the oscillation stop signal to said  
15 oscillation circuit based on the wakeup signal.

22. The microcomputer according to claim 21, wherein said clock control circuit outputs the oscillation stop signal when it does not receive the oscillation signal.